The Boeing Company
1215 North 2200 West
Salt Lake City Utah, 84116

30 October 2012

Mark Berger
Utah Department of Environmental Quality
Air Quality Room, Fourth Floor
195 North 1950 West
Salt Lake City, UT 84116-3085

RE: Comments on Proposed Miscellaneous Metal Parts and Products Coating Rule R307-350 and Aerospace Manufacturing and Rework Rule R307-355, Utah State Bulletin 10/1/2012

Dear Mr. Berger:

The Boeing Company has manufacturing operations in the Utah PM 2.5 nonattainment area that would be affected by proposed amendments to the Utah miscellaneous metal parts rule and the new aerospace rule. These are addressed separately below. Our comments on the miscellaneous metal parts proposal are limited, and relate only to a regulatory overlap with the aerospace rule. Comments on the aerospace rule are more extensive, and are presented in order of significance to The Boeing Company.

MISCELLANEOUS METAL PARTS AND PRODUCTS RULE

THE PROPOSED MISCELLANEOUS METAL PARTS COATING EXEMPTION FOR THE "EXTERIOR OF AIRPLANES" CREATES AN UNCLEAR REGULATORY OVERLAP WITH THE AEROSPACE VOC RULE. As proposed, Section R307-350-2(2)(g) includes coating of metal parts or products in Standard Industrial Classification (SIC) group 37 (transportation equipment). In addition to motor vehicles, ships, and railroad stock, SIC Group 37 includes aerospace manufacturing and rework activities associated with aircraft, guided missiles, space vehicles, their engines or propulsion systems, and parts for these items. The proposed Utah exemption of "the exterior of airplanes" at R307-350-3(c) is a very limited subset of aerospace activities that will be regulated by the new Utah aerospace rule. The Utah aerospace rule will regulate surface coating of both interior and exterior surfaces of airplanes, and covers other aerospace vehicles such as helicopters, missiles, rockets, and satellites. To avoid confusion and regulatory overlap, we suggest that the exemption at R307-350-3(c) be stated as "Surface coating of aerospace vehicles and components." A formal definition of "aerospace vehicles and components" may further reduce opportunity for confusion. This definition can be found in both the Aerospace NESHAP and the Aerospace CTG, but is not presently included in the proposed Utah aerospace rule or the general definitions rule at R307-101-2. The NESHAP and CTG define aerospace vehicle or component as "any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft, including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles."

AEROSPACE MANUFACTURING AND REWORK RULE

IMPORTANT CTG EXEMPTIONS FROM COATING APPLICATION EQUIPMENT REQUIREMENTS ARE OMITTED IN THE UTAH AEROSPACE PROPOSAL. Proposed section R307-355-6(2) provides four of the seven exemptions found in the Aerospace CTG model rule (page B-5). The missing exemptions are:

- Application of specialty coatings
- Use of hand-held spray can application methods, and
- Touch-up and repair operations

The Utah proposal does exempt the latter two from VOC content limits[1], but not from application method requirements. During development of the Aerospace CTG, it was determined that certain types of coatings cannot be applied with high transfer efficiency equipment and still meet performance requirements. The three missing CTG exemptions are discussed in order below.

- Specialty coatings. Some of the specialty coatings, such as electric or radiation-effect coatings, have very high solids content, so cannot be properly applied with an HVLP gun or equivalent. Others, such as adhesive bonding primers, have very low solids content, but must be applied in very thin film thicknesses, and cannot be applied as uniformly as required using HVLP. Some specialty coating can be, and are, applied by dipping, rolling, brushing, or with an HVLP gun. In fact, it is to the manufacturer's advantage to achieve the highest transfer efficiency possible for the particular coating, so as to avoid wasting costly coating materials. With over 50 specialty coatings, different substrates or applications for each of these specialty coatings, and given the relatively low volumes of usage relative to primers and topcoats, EPA determined that the CTG should not prescribe application methods for each of these coating/substrate combinations. Exemption of specialty coatings from application methods is presumptive RACT, and should be included in the Utah aerospace rule.
- Hand-held spray cans. By their very design, hand-held spray cans are not HVLP-equivalent; thus their exemption in the Aerospace CTG.
- Touch-up and repair operations. This is a defined term in both the Aerospace CTG and Aerospace NESHAP, but is not defined in the Utah aerospace proposal or the general definitions rule at R307-101-2. The CTG definition makes it clear that this is a low-volume activity, not repair of an entire aircraft: "...incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of sequence or out-of-cycle coating." While some touch-up and repair operations would meet the proposed Utah application method requirement as a "hand application method,"[2] there are situations where small airbrushes or small non-HLVP guns are used to touch-up areas that need a uniform finish. The Utah aerospace rule needs to account for such situations, and provide the same application method exemptions as the CTG.

IMPORTANT CTG EXEMPTIONS FROM HAND-WIPE CLEANING SOLVENT LIMITS ARE OMITTED IN THE UTAH AEROSPACE PROPOSAL. The Utah proposal requires hand wipe cleaning solvents to meet a 45 mmHg vapor pressure limit or be an aqueous cleaner, consistent with the Aerospace CTG and Aerospace NESHAP. However, most of the CTG exemptions from this requirement are missing from the Utah proposal. Namely:

- Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen,

---

[1] At proposed R307-355-5(2).
[2] At proposed R307-355-6(f).

- Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers,
- Cleaning and surface activation prior to adhesive bonding,
- Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems,
- Cleaning of fuel cells, fuel tanks, and confined spaces,
- Surface cleaning of solar cells, coated optics, and thermal control surfaces,
- Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of the aircraft,
- Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture and maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components,
- Cleaning of aircraft transparencies, polycarbonate, or glass substrates, and
- Cleaning operations, using nonflammable liquids, conducted within 5 feet of energized electrical systems.

These CTG exemptions are the result of extensive EPA and industry review of specific cleaning applications. The listed operations have performance or safety requirements that preclude use of aqueous cleaners or low vapor pressure solvents. They represent presumptive RACT, and should be incorporated at Section R307-355-8(1).

One CTG exemption has, however, become obsolete, and is not longer needed in aerospace RACT rules. It is: "Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4." At the time the CTG was written, EPA had issued some ozone deplete essential use allowances for specific aerospace uses, but these have expired.

A 95% CONTROL EFFICIENCY FOR ADD-ON CONTROLS IS HIGHER THAN FOR ANY INDUSTRY SECTOR VOC RULE PROPOSED BY UTAH, AND IS INCONSISTENT WITH THE AEROSPACE CTG. The other 12 surface coating VOC RACT rules proposed on Oct. 1, 2012 require 90% control, except for some graphic arts processes, which range from 60% to 90%. These proposed levels are consistent with the CTGs for these respective industrial categories. The 95% level for aerospace is not consistent with the other industry proposals or with the Aerospace CTG. This disparate treatment of aerospace is not supportable, and is contrary to the Aerospace CTG, which sets a presumptive RACT level of 81% overall control efficiency. The 81% figure is based on EPA recognition that aircraft paint hangars and paint booths create very dilute VOC concentrations in very large volumes of air, because of their size. Both capture and destruction efficiency are more difficult to achieve than for other industries that coat smaller items. This drives the cost of aerospace add-on VOC controls well beyond the range of Reasonably Available Control Technology at levels above 81% overall control.

TWO CHEMICAL MILLING MASKANTS ARE NOT INCLUDED IN THE PROPOSAL, LEAVING UNCERTAINTY ABOUT APPLICABLE VOC LIMITS. The proposed rule sets VOC limits (by reference to a specialty coating table in the CTG) for three specialty coating maskants: bonding maskant, critical use and line sealer maskant, and seal coat maskant. VOC limits for the two non-specialty coating maskants (Type I and Type II) are absent from the Utah proposal, and are not immediately apparent in the Aerospace CTG. The CTG model rule (page B-4) notes that VOC limits for Type I and II maskants should be based on Aerospace NESHAP limits, which are 5.2 lb/gal VOC for Type I and 1.3 lb/gal for Type II. We suggest the rule include these limits for Type I and Type II maskants as well.

Please contact David Shanks, Environmental Policy Analyst at david.l.shanks@boeing.com or (314) 777-9227 for detailed follow-up on these comments, as they relate to the Aerospace CTG. Contact Blake Izatt at blake.l.izatt@boeing.com, (801) 537-6530, at our Salt Lake City facility for clarifications about Boeing aerospace manufacturing activities in Utah.

Signature

Blake Izatt
Environmental Safety
Boeing Salt Lake City
801-537-6530
blake.l.izatt@boeing.com